

[illegible]

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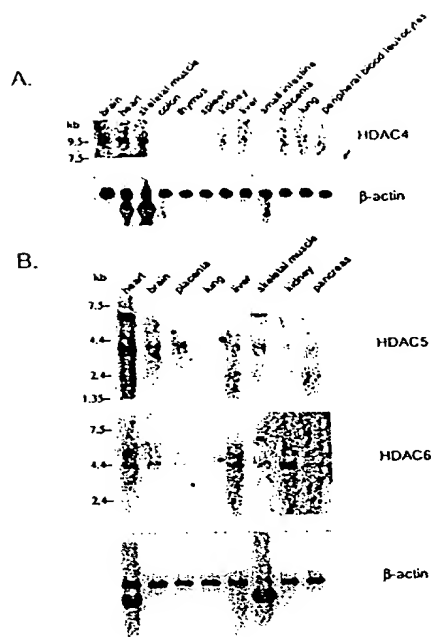
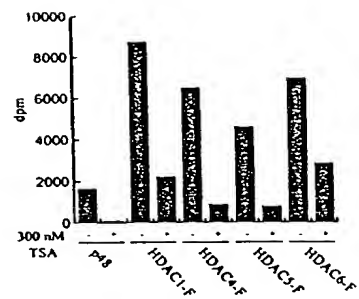


Figure 2

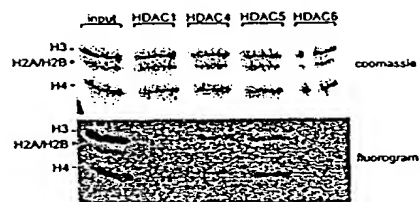


Figure 3

A.



B.



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Figure 4

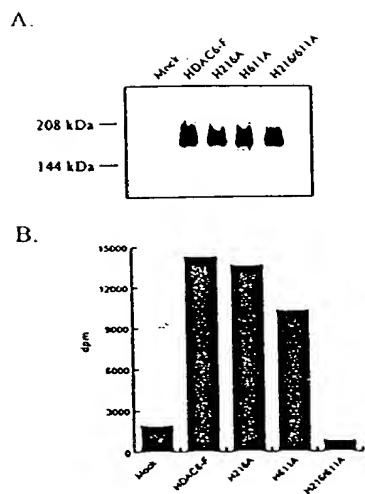




Figure 5

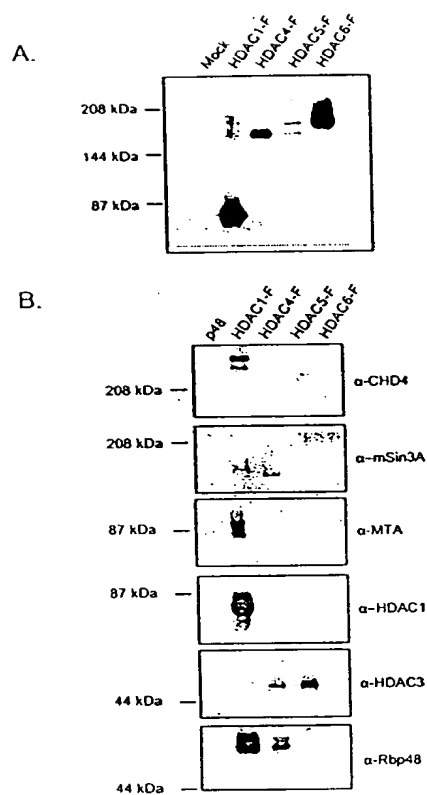


Figure 6

A.

HOMOLOGY REGIONS	INITIAL AA IN HDAC1	CONSENSUS SEQUENCES	EXCEPTIONS
1	99	D (C/T) P (V/I) F HNA	CLASS I CLASS II
2	134	H X X G G X H H A R P P G H H A	CLASS I CLASS II
3	148	S G (F/Y) C X X H G (F/Y) C X X H	CLASS I CLASS II
4	174	D x D x H H G D G V (D/E) D x D x H H G X G T Q	CLASS I CLASS II
5	193	V X T X S H V X (Y/H) S X H	CLASS I CLASS II
6	225	H x P (M/L) X D G I D D X (S/T) Y HNA	CLASS I CLASS II
7	298	x G G G G Y x E G G (Y/H)	CLASS I CLASS II

B.

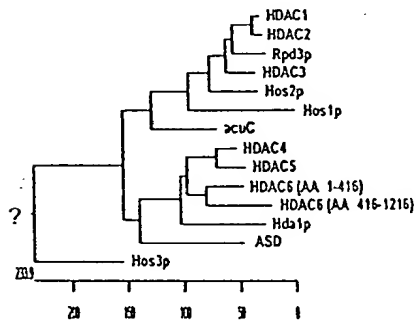


Figure 7

Figure 7A

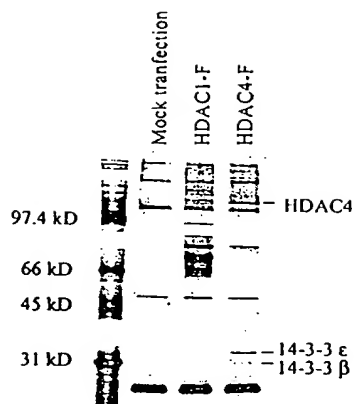


Figure 7B

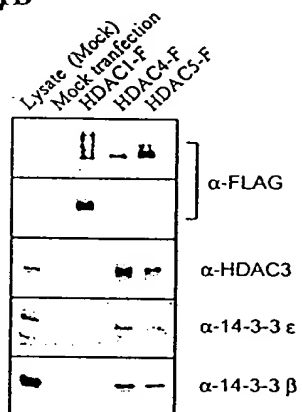




Figure 8

Figure 8A

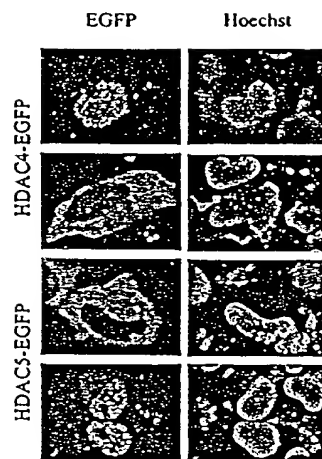


Figure 8B

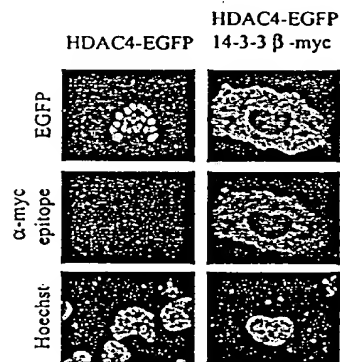




Figure 9

Figure 9A

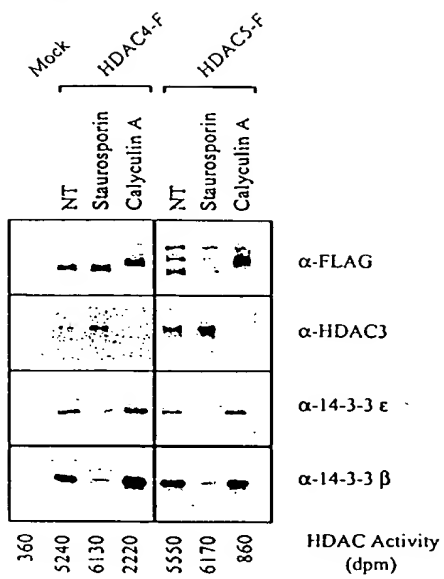


Figure 9B

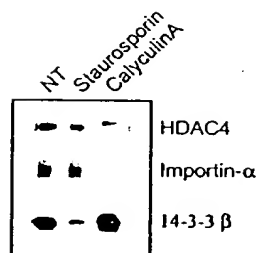
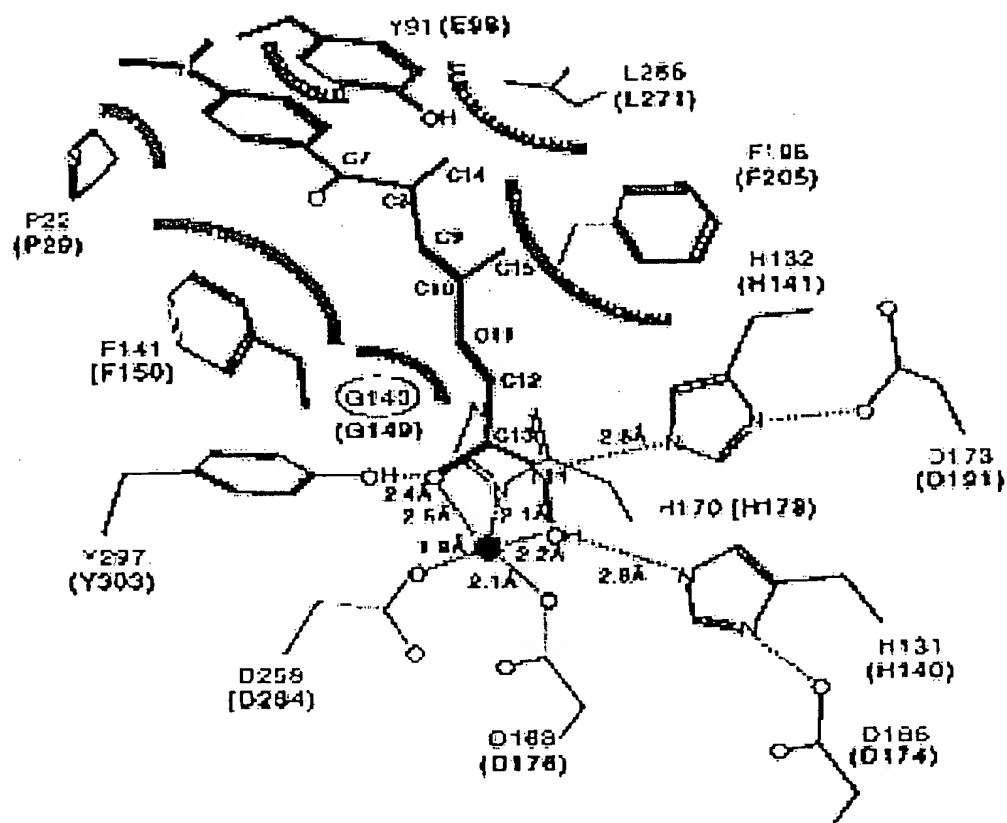


Figure 10



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**Figure 11**

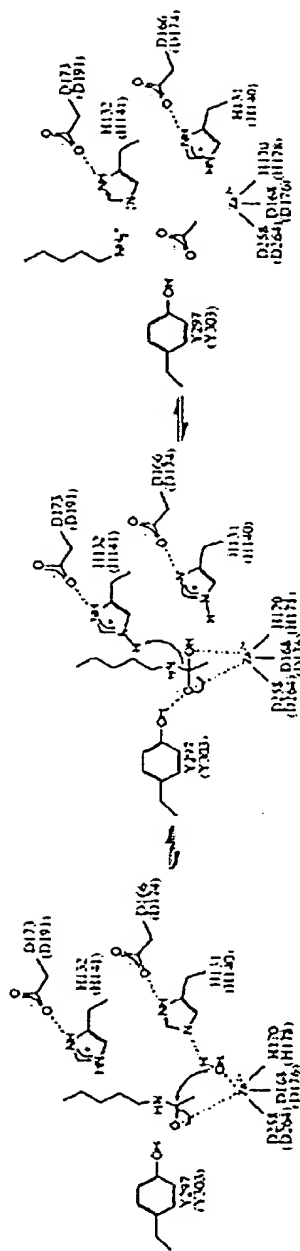
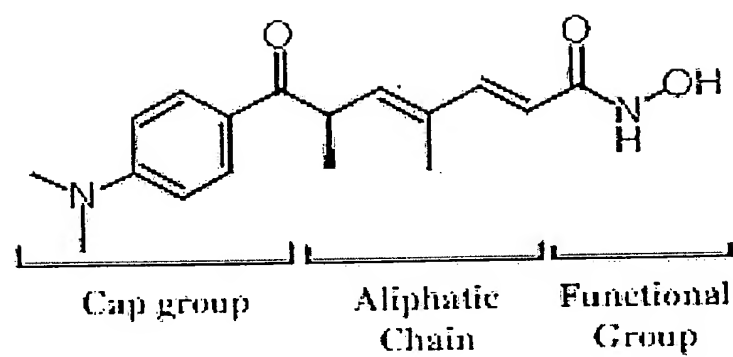


Figure 12



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Figure 13

		Residues on rim of channel				Residues in channel					
		E2*	Y1***			H111		*	H111	Y265	
Class I	HDLP	P I	G	G	Y E N P	HDLP	H 8 F	E - Y A F P		Y L	
	HDAC1	P M	G - E	D C P		HDAC1	S 6 F	E - Y F - P		R L	
	HDAC2	P M	G - E	D C P		HDAC2	S 6 F	E - Y F - P		R L	
	HDAC3	P M	G - D	D C P		HDAC3	S 6 F	E - Y F F P		R L	
	HDAC4	A K	G - Y	D C P		HDAC4	S 6 F	D - G F F P		P M	
	HDAC5	P I	G	V D S D T		HDAC5	H 6 F	D S N F F P		P L	
	HDAC6(a)	P I	- - -	D S		HDAC6(a)	H 6 F	N S N F F P		P L	
Class II	HDAC6(b)	P I	- - -	D S		HDAC6(b)	C 6 F	H S T F F P		P L	
	HDAC7	P I	G	V D T D T		HDAC7	H 6 F	D S N F F P		P L	

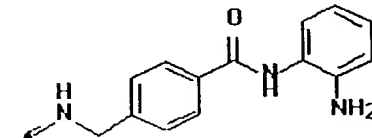
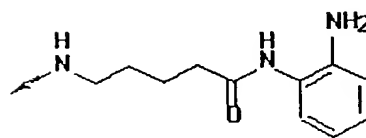
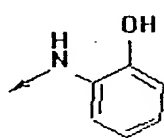
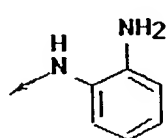
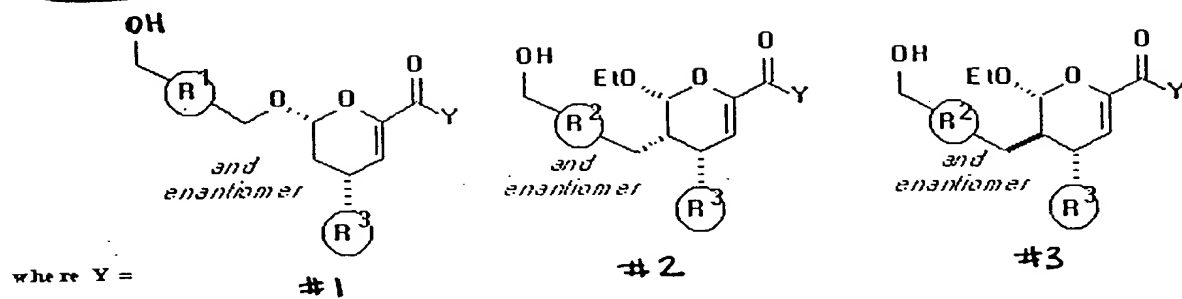
  

		Residues in active site									
		***			H111		D166		D168		Y265
Class I	HDLP	P	A	G	G	H H A	Y I D	L D A	H H C D	T D P	6 6 6 Y
	HDAC1	P	A	G	G	L H H A	Y I D	L D I H	N G D	S D S	6 6 6 Y
	HDAC2	P	A	G	G	L H H A	Y I D	L D I H	N G D	A D S	6 6 6 Y
	HDAC3	P	A	G	G	L H H A	Y I D	L D I H	N G D	A D S	6 6 6 Y
	HDAC4	P	S	G	G	V H H A	Y I D	L D I H	N G D	A D T	6 6 6 Y
	HDAC5	R	P	P	G	- H H A	I V D	V D Y H	N 6 N	F D A	6 6 6 H
	HDAC6(a)	R	P	P	G	- H H A	I V D	V D I H	N 6 N	F D A	6 6 6 H
Class II	HDAC6(b)	R	P	P	G	- H H A	I V D	V D Y H	N G Q	F D A	6 6 6 Y
	HDAC7	R	P	P	G	- H H A	I V D	V D Y H	N 6 N	F D A	6 6 6 H

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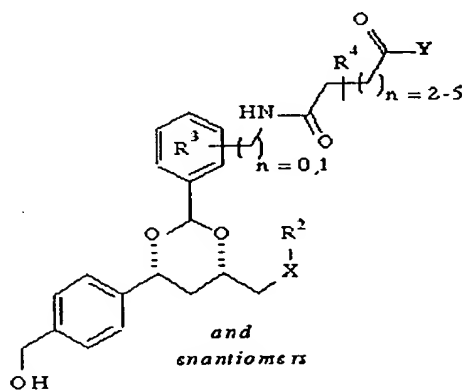
Figure 14

14A



(4 R<sup>1</sup> groups + 2 R<sup>2</sup> groups) ↔ 10 R<sup>3</sup> groups ↔ 2 (enantiomers) ↔ 4 amines = 640 compounds

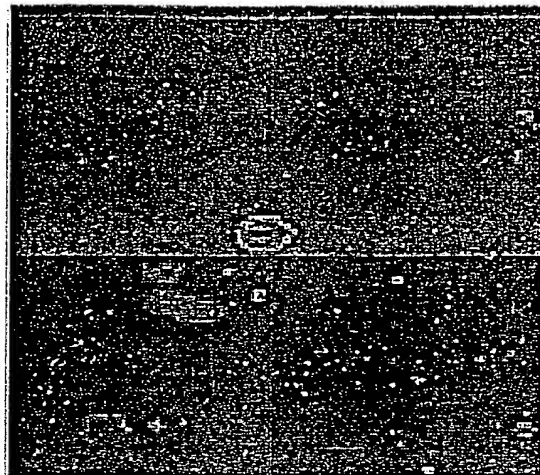
14B



where Y = OH, NHOH, o-aminoaniline

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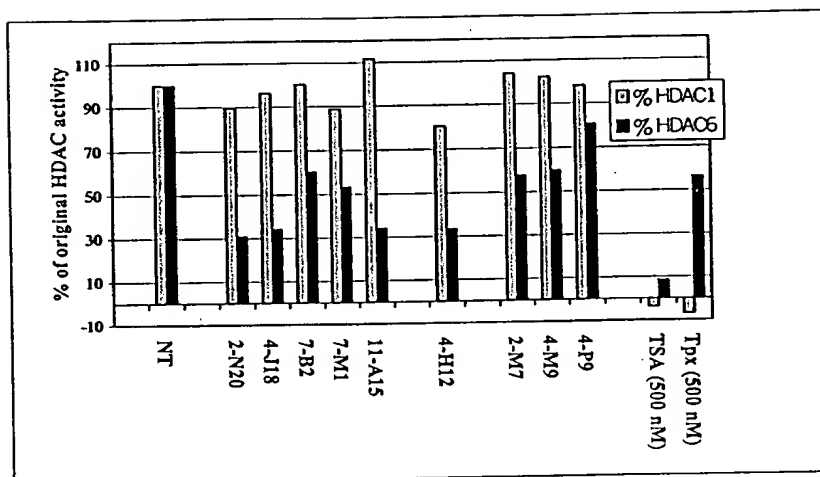
Figure 15



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Figure 16



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Figure 17

